

REMARKS

The present application has been amended in response to the Examiner's Office Action to place the application in condition for allowance. Applicant, by the amendments presented above, has made a concerted effort to present claims which clearly define over the prior art of record, and thus to place this case in condition for allowance.

In the Office Action, the Examiner rejected to the drawings. A cleaner set is enclosed herewith. Applicant respectfully requests that the drawings be accepted.

In the Office Action, claims 1-2 and 6 were rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent No. 6,658,640 (Weed), Claims 3-5 and 7-9 were rejected under 35 U.S.C. §103(a) as begin unpatentable over Weed in view of United States Patent No. 6,421,820 (Mansfield et al.), claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mansfield et al. in view of United States Patent No. 6,562,638 (Balasinski et al.), and claims 12-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mansfield et al. in view of Balasinski et al. and further in view of Weed.

The claims have been amended to more specifically claim the present invention, and to further distinguish the claimed invention from that which is disclosed in the cited references. For example, claim 1 now specifically claims the steps of providing a pattern of polygons and moving lines of the pattern to account for predictable distortions, and after moving lines of the pattern to account for predictable distortions, statistically modifying the polygons based on reticle critical dimension specifications to construct a statistical virtual mask. Then, virtual mask image response function statistical parameters are obtained, and the statistical parameters are compared

to process tolerance requirements. Claim 10 is similar but is directed to a method. Applicant respectfully submits that this is neither disclosed nor suggested by the cited references, either when taken alone or in combination.

The present invention deals with modifying a layout after OPC. Specifically, after the layout is revised to account for distortions, the layout is further revised, taking critical dimension specifications into account. This provides a statistical virtual mask. Then, virtual mask image response function statistical parameters are obtained, and the statistical parameters are compared to process tolerance requirements.

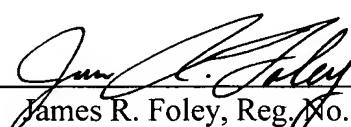
In contrast, the Weed reference, for example, discloses initially capturing an image of an already made mask and simulating a wafer image. As such, there is no OPC performed on the captured image. A mask map is generated from the simulated wafer image, and the mask map can be sent to a downstream wafer fabrication process. Based on the mask map, input parameters can be changed. The Examiner has identified Weed's mask map as being akin to applicant's statistical virtual mask. However, in creating Weed's mask map, Weed captures an image from an already made mask. As such, Weed neither discloses nor suggests, and arguably teaches away from providing, providing a pattern of polygons, moving lines of the pattern to account for predictable distortions, and after moving lines of the pattern to account for predictable distortions, statistically modifying the polygons based on reticle critical dimension specifications.

The other cited references, either alone or in combination, also do not disclose or suggest what is being claimed in claims 1 and 10. As such, Applicant respectfully submits that claims 1 and 10, and those claims which depend therefrom are allowable over the cited references.

In view of the above amendments and remarks, Applicant respectfully submits that the claims of the application are allowable over the rejections of the Examiner. Should the present claims not be deemed adequate to effectively define the patentable subject matter, the Examiner is respectfully urged to call the undersigned attorney of record to discuss the claims in an effort to reach an agreement toward allowance of the present application.

Respectfully submitted,

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